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## The Federation of Ontario Naturalists

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A SUBMISSION TO THE

SELECT COMMITTEE ON MOTORIZED SNOW VEHICLES

AND ALL TERRAIN VEHICLES

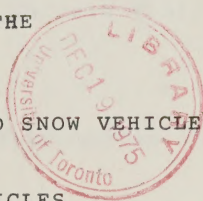
CONCERNING

SNOWMOBILES, HOVERCRAFT, AND OTHER OFF-ROAD VEHICLES

prepared on behalf of

THE FEDERATION OF ONTARIO NATURALISTS

August 31, 1973





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31st August, 1973

The Honourable Alex Carruthers  
Chairman of the Select Committee on  
Motorized Snow Vehicles and All Terrain Vehicles  
Main Parliament Buildings  
Room SE 553, Mowatt Block  
Toronto 5, Ontario

And to: All members of the Select Committee

Dear Mr. Carruthers

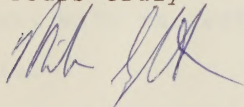
I am pleased to present on behalf of the Federation of Ontario Naturalists our Submission to the Select Committee concerning off-road vehicles.

The Federation of Ontario Naturalists is a research, educational and service organization dedicated to the maintenance and improvement of the quality of environment and consequently the quality of life for all Ontario residents.


With a direct membership of over 14,000, together with 46 independent clubs and a further 19,000 enrolled in our junior program, we believe that our views are representative of a significant segment of the population who share a deep concern for the natural environment.

Thank you for your consideration.

Yours truly



Mike Singleton  
Biologist



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Continued population growth and with it economic, technological and social developments have occurred at an exponentially increasing rate during the last two decades. These developments have wrought many changes in both our biophysical and our social environments - changes which we are just now recognizing as having serious, long-reaching, and at times undesirable consequences for our way of life and our quality of life. It has become obvious that an improved understanding of these changes - and consequently better planning and management - is vital if we are to avoid repeating past mistakes. Development such as the appointment of this Select Committee, and the rapid production of such excellent recommendations as are contained in your Interim Report, is indeed very encouraging.

It must be emphasized that the Federation is not preoccupied with the preservation of a simple people-free pristine environment, nor with the simple death of a few 'poor little meadow moles'; rather the Federation is concerned with the potentially large-scale impact of many activities on our environment and, in turn, with the effect of these impacts on Ontario's quality of life.

The origin, increase, and projected growth of the Off-Road-Vehicle (ORV) phenomenon is one such area. It has both negatively and positively affected the quality of life throughout the province and may be expected to continue these effects in the future.



These effects are closely related to the types of usage, arbitrarily divided into two categories: recreational and vital transport. These categories are fundamentally different, not only in their application, but in their causes, social effects, area of usage and environmental impact, and necessary regulation. They must therefore be dealt with individually.

### Vital Transport

The 'line' between industrial and vital transport applications is, at best, a very 'fuzzy' gray; therefore, both applications will be considered simultaneously.

The origin of most off-road vehicular modes - in particular snowmobiles and hovercraft - lay in industrial applications and vital transport.

Oversnow vehicles, for example, have provided ready winter transport for supplies and vital necessities in far northern communities, for resource-industries operating through the winter, and even in cases for management of special wildlife areas. Hovercraft similarly can provide year-round links for northern communities and simultaneously allow resource-industries access for difficult-to-reach areas.

Wherever they are used, these vehicles will have some environmental impact, as discussed in relation to recreational usage.





In some cases, such as particularly sensitive dune, permafrost, and wetland areas, vehicular access must be restricted or prevented - even at great economic cost - to prevent severe environmental degradation. On the Northern Slope (Yukon, Alaska), for example, petroleum exploration - employing seismic equipment - has been totally prohibited from the early stages of thaw until the late stages of snow accumulation in order to prevent permafrost breakdown and concomittant severe vegetational damage and widespread erosion.

Similarly, the operation of heavy wheeled and tracked equipment must be prohibited on Ontario's sand dunes and permafrost in order that vegetational breakdown and erosional effects not be instituted. Once begun, such effects may require decades to centuries for rehabilitation, and may be entirely irreversible.

Clearly, it may be necessary to severely restrict the type of equipment, or the time of crossing, or even to prohibit the operation across various types of terrain. And, these regulatory measures must be determined before irreversible or essentially permanent degradation has occurred. Clearly, these measures must be determined and usage regulated either through the Ministry of the Environment or the Ministry of Natural Resources.

Where vital transport is involved, some impact from one mode of transport on another will inevitably occur; we must there-



fore attempt to minimize that impact. And, off-road vehicles may well constitute the most desirable method of transport. For example, in applications such as linking northern communities and servicing pipelines, hovercraft may well obviate (the need for) environmentally highly undesirable utility features, such as roadways.

The construction of extensive roadways not only destroys a tremendous amount of habitat, and destroys true wilderness, but is also well recognized for environmentally seriously degrading very large areas and effecting undesirable social consequences. Particularly in northern areas, roads significantly affect drainage, necessitate extensive disturbance of wetlands, peat deposits, and - in far northern areas - permafrost. They frequently lead to severe erosional problems, alteration of watertables and hence the destruction of vegetation over tremendous areas, the degradation or even destruction of fisheries, and, of course, the decimation of very large source areas for gravel supplies.<sup>1</sup>

What we are saying is that where vital transportation is involved, the primary consideration regarding the means of transport must be environmental. And, in many cases - with careful design, regulation, and operation, this will involve off-road vehicles.

<sup>1</sup>And, the flow of traffic can well lead to major and undesirable changes in the character and quality of many truly unique northern communities.



All vital transport and industrial off-road vehicles should be licenced under the Ministry of Transport and Communications.

However, the design, regulation, and operation of such vehicles must fall within the Ministry of the Environment. Permits should be issued for each area and period of operation only following consideration of the proposal by MOE personnel.

### Recreational Usage

Dealing with recreational usage, the cause, numbers, and impacts are considerably more complex.

Rapid and major economic and social changes, since the early 1960's, are producing a recreational revolution; a revolution which will have far-reaching consequences on the Ontarian way of life, for a considerable period to come. This "revolution" exhibits itself in the very large increase in both winter and summer leisure activities: e.g., skiing, snowshoeing, hiking, canoeing, camping and cottaging. One of the most striking changes, however, has been the mass appearance, about 1967, of the motorized personal recreation vehicle. This recreational use spread and the snowmobile rapidly became mainly a technological toy - a toy that made winter more exciting for those who used them. And, it was quickly followed by a great proliferation of other vehicles; indeed this trend is still progressing, although fortunately at a somewhat slower rate during the last year. The rapid development of a whole array of machines is not





something someone simply never 'thought of before', nor is it completely simply a fad. Rather, it is a product of considerable and rapidly occurring economical and social changes during the last decade in combination with the abilities of the machine to satisfy "psychological" wants.

We see the ORV popularity as a sum expression of the capability of the machine (and of) a number of social changes: the changing work - leisure pattern, overall population growth, a changing population structure, continued urbanization, 'claustrophobia', a frontier culture, an increased need for individual self expression and freedom, and a desire to "get back to nature" coupled with accustomization to personal freedom and ease of mobility.

At first, the machines seemed relatively innocuous. They were few in number, and since most snowmobilers then joined clubs, there seemed to be more control over their behaviour. With few complaints about their use, regulations did not seem necessary.

This lack of regulation perhaps encouraged the purchase of new machines by those who wished freedom from any degree of social restraint. And with no regulations the machines could be used almost anywhere - private fields, public land, township roads, villages - so that availability of space was not a particular concern for the early snowmobilers. These vehicles,



then, became a part of the winter recreation scene largely by default, since there was little opposition or even questioning of their widespread unregulated use.

A similar pattern has followed with the other ORVs, but fortunately the others are well behind the stage to which snowmobiles have progressed, and some are still virtually in the design stage.

The question now before the Committee is therefore two-fold:

- (a) how to regulate the snowmobile sport, and
- (b) what pattern to follow with other ORVs.

In attempting to sort out the problems with these, one must consider that the ORV problems stem from two areas:

- A) Biological Impact, and
- B) Conflicts with other "user groups" (including both those residing within the area, and those seeking some other form of leisure-activity).

The two areas have frequently merged into one, and indeed are frequently related. Certainly any "user" who (biologically) impacts the area through which he passes provides prime ground for conflict. However, the reverse is not true. Occasionally various user groups - including some 'naturalists' - have sought and greatly exaggerated impact ("damage") problems to provide an additional basis for criticism of the machine or





other user groups. Clearly, exaggeration is not justified.

Rather, we believe it important to identify both areas where they exist, and to determine the interrelationship (i.e. conflict source) where that exists.

In evaluating these effects, and in translating them into regulation, the primary consideration must be biological. Where, for example, some activity is shown, or even reasonably suspected of causing a serious impact, the most conservative, careful regulatory approach must be followed, even to the point of prohibition. This is especially important where the impact will be particularly prolonged; for example where a large damaged area will require decades to centuries for rehabilitation. Only in this manner can we have any hope of maintaining the extremely diverse and economically and sociologically important natural heritage mosaic which we now enjoy.

Where the biological impact is negligible, or can reasonably be regulated so as to be acceptable over the long-term, then one must explore the existing, probable, and potential social conflicts, and the sociological effects in order to appraise the activity/machine. And, where these impacts are shown to be, or reasonably suspected of producing a serious hardship or undesirable sociological effects on a significant proportion of the population, then the activities must be sufficiently tightly regulated - even to the extent of prohibition - that the undesir-



able effects will be virtually eliminated.

As one of the 'land-user' groups most significantly affected by the ORV phenomenon, the Federation has had to take a long, very careful look at these two areas of concern. It has had to carefully segregate the Biological Impact from the user groups conflicts, and to examine each of these individually. And it has had to be objective.



### Environmental Considerations

In examining ORV-impacted areas this spring, in reviewing the literature and in conducting brief discussions with researchers concerning the ecological effects of ORV usage, we have received statements ranging from impending disaster through absolutely no effect to those of highly desirable effects.

And the effects have been variously attributed to operator ignorance or disregard and to inherent characteristics of the machines.

Dealing first with the operator, we believe that much of the environmental impact stems from a lack of operator knowledge regarding the potential impact of ORV usage. We do not accept that, as the Ontario Snowmobile Distributors Association asserted, that the vast majority of snowmobilers "recognize their own capabilities and those of the machine". Few people are aware of known environmental effects of snowmobiles or of other all-terrain vehicles; far fewer still are aware of potential damaging effects of ORVs which are not yet evident. Indeed, our experience suggests that a great many operators have been brainwashed into believing that the machines have insignificant effects, or no effects at all: that, since snowmobiles travel atop a layer of snow, they have no effect on the life below; that since a machine can be driven over a person, it will not damage the area through which it passes; that since hovercraft





have an 8" air cushion, they will not affect the wildlife of wetlands; and that, since bare sand is already visible on dunes, impact by vehicles can not trigger erosion. Yet these misconceptions could not be less accurate.

There will undoubtedly be some effect from the use of ORVs. The introduction of such vehicles into either summer or winter environment amounts to the addition of an entirely new factor affecting that environment. The winter environment is not one of inactivity. Winter and summer are both living, dynamic periods. And, the change in any environmental factor within a complex interacting system will influence the flora and the fauna that live there. The question regarding impact must therefore be threefold.

1. What effects will there be?
2. How great will these effects be?
3. How great is the significance of the change - i.e. what does it matter?

Obviously, both the effects and their magnitude will depend upon the degree of transformation of the environment. Where the substrate - whether ground or snow - is changed the greatest, the effect on plants and animals will also be the greatest. Where the impact involves physical disruption of the substrate, the effect will be functionally permanent. And where 'sanctuary' areas are invaded, the degree of disruption and degradation will be directly related to the degree of 'disruption' increase.



Dealing first with oversnow vehicles, the nature of the substrate - snow - is highly variable. Snow accumulated in near barren fields, for example, is greatly affected by the wind; deposits are usually relatively thin and relatively dense - (the result of abrasion of the snow crystals, mixing by the snow, and exposure to sunlight all day). By contrast, snow accumulated in dense woodland is relatively little disturbed; deposits are deeper and much less dense. These snow characteristics have a major effect upon insulative, respiratory, and penetrability qualities of the snow, and in turn have a direct influence on the flora and fauna which dwells there, where the snow is most transformed, the flora and fauna will be most seriously affected, and may itself be radically altered.

Snowfall type also varies from region to region throughout the province - a variation which is partly responsible for the vegetational differences of various areas. Since the snow itself varies in density and depth, the effects of snowmobile travel will consequently vary from area to area and from habitat to habitat; where the change is greatest, the effects will be the greatest. In regions of normally heavy accumulation, the characteristics of the snow will be most altered; and where extreme exposure is the rule, characteristics of the snow will be little altered.

Effects will also vary temporally. During periods of minimal





accumulation, the impact will be most marked. Periodic inclemencies - abnormally late or light snowfalls; premature melts; late, early or heavy frosts - occur in all temperate habitats, and have profound effects on the flora and fauna. Because of microhabitat variability and also because of the infrequent nature of these occurrences, the effects are not usually catastrophic to an entire habitat. The operation of over-snow vehicles, however, increases the frequency of such periods of stress, greatly increases the severity on traversed areas (undergoing peak stress), and increases the total area affected by that stress during inclement periods.

Densification has been the most studied effect of over-snow transport. It has been clearly demonstrated to alter temperature profile and fluctuation, penetrability, and gas permeability (notably  $\text{CO}_2$ ) in the environment. These aspects have been fully discussed in the University of Western Ontario Symposium, and will not be repeated here.



Winter research has not progressed sufficiently for it to allow either a complete or an accurate prediction of either the immediate or long-term biotic effects of these changes. Long-term effects may be slow and subtle in appearance, while ultimately being of quite considerable biotic and land-use importance. Some biotic effects are immediate, however, and this knowledge allows us to hesitatingly predict the long-term significance of large-scale over-snow travel.

Studies to date have dealt with only the known results of such travel, but they have demonstrated a clear and immediate impact upon plant and animal communities.

In short, these studies have shown a drastic reduction in small mammals (Jarvinen, 1971), a very large decline in the bacterial and fungal decomposition rates and populations (Wanek, 1971), a probable reduction in the productivity of selected environments (Whittaker, 1971), a delay in the thaw and hence emergence of plant species in the spring, and a selective destruction of both supernivian (Wanek, 1971) and subnivean overwintering plant structures (review by Wanek, 1971). We do not wish to repeat these studies here, but we do wish to draw the Committee's attention to them and to emphasize their importance.

Long-term implications have so far received little attention in the literature. The few statements that have been forthcoming (Wanek, 1971; Pruitt, 1971), suggest that long-term implications on affected sensitive areas will be quite serious. It



is a high probability, for example, that early flowering woodland herbs (i.e. wildflowers) - which depend upon snow insulation for winter survival and upon the bright period prior to forest canopy opening for seed production - will be injured or delayed sufficiently that they will be unable to complete their reproductive cycles. Should an entire area be compacted by snowmobiles in less than a generation, it is probable that such sensitive species will disappear. And, in view of the broad and continuous track and the very rapid speeds at which these machines travel, complete compaction can occur exceedingly quickly.

There is a real likelihood that in areas of heavy use the forest composition itself will be radically transformed or broken down altogether. Several studies have reported selective damage in reforestation areas. Pine, for example, are much more sensitive than Spruce. And, although no studies have been conducted on deciduous species, the tremendous variability of form and wood qualities (especially brittleness), suggest that a similar sensitivity occurs here. Again, complete compaction in less than the period required to outgrow tree damage (up to twenty + years in dense forest) could very easily lead to the elimination of sensitive species. And, since selective girdling and seed scavenging by small mammals plays an important role in maintaining species composition, it is vital that we maintain complex, diverse faunas in these areas.





We have, this spring and summer, examined snowmobile trails on the Bruce Peninsula. Our impression - not a scientific study - was, in some respects at least, encouraging. Although most sections examined contained only one year old growth, all areas were vegetated, and no soil compaction - a major problem with summer foot trails - had occurred. That is, the ecological influence continues only so long as direct impacting occurs; within a relatively few years, the area will rehabilitate, provided the substrate itself is not physically disturbed. Another important aspect of the relationship between snowmobiles and environmental impact is that we do not know the effect of the accumulation of heavy metals or other emissions. We do know that these accumulations and emissions are significant along roadsides (Hutchinson, 1971) and that the unhindered travel of snowmobiles effectively blankets the entire southern Ontario scene with these materials; further, some of these materials are highly toxic and, if absorbed by plants or animals, will be accumulated through food chains. Finally, these accumulations are essentially permanent in their distribution; no amount of remedial action can remove them once incorporated in the soil and vegetation.

For these reasons, we believe that careful regulatory practices can minimize the environmental impact of snowmobile use, and that research must be continued to clarify and minimize the



environmental impact of snowmobiles. Clearly, a much more vigorous program of driver education must be conducted, than has been suggested thus far. Booklets will provide a start, but only a vigorous program of teaching and testing, such as that currently conducted for hunters, will have any hope of effecting environmentally based operators' behaviour.

With regard to other Off-Road-Vehicles, there is no question that serious environmental effects will occur. Terrestrial machines not only crush vegetation, but directly alter the soil itself over large and continuous belts and indeed frequently trigger serious erosion and alteration of slopes. Parks departments generally, have found that these machines seriously compound stripping and erosional effects, already a problem because of heavy foot traffic. These machines receive their greatest usage in ravine areas near homes and cottages and on dunes - areas that already have a heavy usage load and are particularly sensitive. Indeed, many advertisements have depicted users tearing, in a state of reckless abandon, over and through decomposing logs, sensitive woodland herb layers, stream valleys, and so forth. Since the pleasure of operators derives directly from the exhilaration of racing through the landscape, and since their use necessitates large, continuous trails and deep treads, we see little hope of minimizing the environmental impact of these machines.

Amphibian vehicles will be mainly used in areas that are inacces-



sable to other vehicles - swamps, marshes, bogs, and other wetlands. These areas are the most fragile of all. Their vegetation depends on a water vascular system, and with the exception of a few reeds, virtually completely lacks strong support fibres; such vegetation is easily broken or crushed. As already suggested, the size and air pressure in such tires is designed to permit traversing of wet areas, not to protect the plants, or the substrate.

Traversing by such wheeled vehicles will not only break and destroy most of the plants traversed by their very large tires, but even more important, it will seriously alter the habitat through causing depressions, leveling hummocks and breaking and stripping vegetated logs and rocks.

Should even minor depressions develop within such delicate features as raised bogs - as seems likely - even by a single traversing, changes in the drainage pattern are likely to lead to the death of large areas of vegetation, and to severe impairment of these areas' natural qualities.

Even within shoreline marshes, swamps and backwoods ponds, these units will have a profound affect upon the wildlife, and the physical habitat itself. Such areas are universally recognized for their value as prime productivity centres, providing the major refuge and breeding grounds for most shoreline mammals - e.g. muskrat, beaver and mink - most waterfowl - e.g. virtually all ducks, geese and loons, a great many



song birds - e.g. marsh wrens, and swamp sparrows - reptiles, and even many of the frog and fish species. In addition, these provide the prime feeding grounds for numerous other species.

The quality and capacity of most of these areas is exactly inversely proportioned to the degree of human intrusion and disturbance. Indeed, many of these areas have been seriously affected by motorboat swash. Since many of the most sensitive areas constitute the elevated grounds, upon which virtually all of the larger birds nest, and many of the unusual and sensitive plants grow, one can only expect a maximal impact from vehicles, which utilize these most easily traversed features. Indeed, many of the sensitive areas are so excellently camouflaged that their detection is impossible even as one approaches them.

Our wetlands are already in jeopardy from encroaching agriculture and urban development. Most other land has already been claimed and wildlife has become almost totally dependent on our wetlands.

It is perhaps ironic that the Ontario Ministry of Natural Resources has voluntarily initiated a project entitled Lake-Alert, whereby potential recreational lake areas are being planned for cluster-development in order to protect the natural environment and the sociological values associated with it.





It is noteworthy that great care has been taken to avoid harming wetlands of all types. Yet swamp buggies - designed specifically for travel in these extremely delicate areas - will, if permitted, cause major changes in (1) wildlife support capacity, and (2) quality of user experience.

A nearly identical situation exists with the recreational hovercraft, although for slightly different reasons. These units, typically with an 8" clearance, are not nearly so hard on the vegetation over which they pass. Indeed, with the exception of most water vascular plants and particularly tall species, these machines should be able to traverse vegetation without significant damage. And these units should have comparatively minor effects on projectory sections of substrate up to approximately 6" above the water/land surface. However, any material projecting above the skirt height will almost certainly be abraded by the machine.

We are concerned that most waterfowl fall into this category, as do many of the Sphagnum - ericaceous plant hummocks, and many of the bushes and tall plants (e.g. cattail) so important to nesting songbirds.

Considering the rapid rates of traversal, variously quoted up to 40 mph, and the great width (5 - 8 feet), these units have the capacity to directly contact tremendous areas in a very short period. And, one must also consider the disturbance to which we have already referred. Since wetlands constitute the only



cottage country areas which these machines can traverse, yet not already accessible to standard craft, one can only assume that wetlands will be the major recreational attraction. And, when one considers the degree of disturbance by rapid operation and by the inevitable removal of deadfalls and other materials dangerous to their rapid operation, one realizes the serious impact that will occur on wetlands. And, when one considers that wetlands constitute the only remaining significant sanctuary areas, as well as the primary refuge areas for the remaining wildlife, one can only see the introduction of the recreational hovercraft as a major degradation to Ontario.



### Conflicts with other User Groups

As already suggested, there are two arbitrary user groups: other recreational users, and residents. Many of the concerns are identical, and, in large measure, the two groups overlap strongly. For example, noise is a major concern to both groups, and many rural residents have chosen their dwelling location for its recreational and "urban-escape" characteristics. However, we believe they must be considered separately.

#### A) Residents

This Committee has heard a litany of woes from people who have been seriously disturbed by snowmobiles. Such complaints come from two particular sources: first, property owners who are being harassed and whose land qualities are being impaired by snowmobiles, and secondly, residents who have had their sleep or the quiet enjoyment of their own homes disturbed and disrupted by the noisy vehicles. As recognized by your Interim Report, both groups deserve consideration and protection. Some of this disruption is caused by irresponsible behaviour on the part of snowmobilers, but much is also due to the inherent qualities of the machines and to a lack of distinct areas for and free of snowmobile use.

Incidents of vandalism or even unintentional damage on farm property have received significant publicity from the press. And, we believe that a good deal of these problems will be solved by the Committee's Interim recommendations concerning





licencing and conduct. Problems will certainly continue indefinitely, but can largely be minimized through comprehensive educational programs and vigorous law enforcement.

However, we hold serious doubts concerning the adequacy of these recommendations to preserve one of the most valued rural qualities, and indeed the main rationale for which many seek country living: quietude.

Citizens complain that their sleep is disturbed, and that they can no longer enjoy a quiet evening walk or a pleasant conversation in the privacy of their own home, much less their own property, community property, or even villages.

Wasaga Beach is not an unreasonable example of this last area. This particular community has become a winter snowmobile resort, and also has attracted a large number of old-age pensioners seeking a pleasant and relaxing environment for their retirement years. The Town is presently divided over the issue. Some pensioners have left because of the snowmobile noise, others have decided to 'stay and fight'.

This last problem might conceivably be solved by town bylaws, but the problem soon becomes one of how many people are to be sacrificed for the supposed "best interest" of the community.

Perhaps the most important area, and one that cannot be solved by such bylaws, is the already-referred to rural scene. Even



keeping snowmobiles off one's own property does little if the next-door neighbour, or even someone well down the road is permitting large-scale snowmobile operation.

The solution to this problem is surely to reverse the principle of current regulations and ban snowmobiles from all southern parts of the province except areas specifically designated for their use - just as racing cars, for example, are permitted only on approved raceways. We have seriously questioned and considered the manageability of such a proposal, and the implications for the many landowners who do own snowmobiles.

We believe that this is, indeed, a manageable proposal provided adequate time is permitted for planning and user accustomization.

We believe that, as part of the regional planning process, distinct snowmobiling areas should be so zoned, and that snowmobile use should be permitted only in these areas. This is the only possible way to allow for rational discussions concerning the area and location of snowmobiling areas, to allow for public input and comment, to permit those using the machines to avoid major conflict, and to permit those seeking escape from the machines to actually avoid them.

The notion that landowners should be permitted to do whatever they wish on their property disappeared many years ago with recognition of the absolute necessity of regional planning.



We believe most strongly that this is equally vital in controlling snowmobiles.

With regard to other off-road vehicles, we see great variability with regard to resident impacts. The wheeled minibike and tricycles appeal to a completely different user group; since they are small and inexpensive, they appeal primarily to a younger and comparatively "carefree" set. The control of these is already most difficult - near impossible - even where laws governing their use or prohibiting them exist. Since the machines are easily, and for the most part, inconspicuously transported, and since they are noisy, cause severe plant damage and trigger erosional problems, we can only imagine very serious conflicts with residents, should these machines continue even at present levels. We see no hope of controlling them employing recommendations thus far proposed for snowmobiles, and we seriously cannot imagine regulations which will provide any measure of control.

Trail bikes, while appealing to a much broader age cross-section, are still employed as carefree escapes from social restraint. Fortunately, the major impact caused by these machines has been contained largely to specific scrambling areas in and around large urban centres. However, during the last couple of years, sales have apparently begun to blossom, and impact problems have begun to appear in many areas, such as the Nassagaweya Canyon area of the Niagara



Escarpment. It must be borne in mind that the impact of these machines (per unit area travelled) is as serious as the mini-bikes and tricycles; their deep treads and strong engines make steep and rugged land their major attraction. In view of the fast-spreading use of these machines, in non distinct areas - even with no regulations on other ATVs - we can only envisage great impact problems should such usage continue to spread.

With regard to the expensive, many wheeled units and air-cushion vehicles, we do not see quite such serious conflicts with residents, partly because the units appeal to a different user group, and largely because the units are more easily chased or identified, and largely because few landowners would choose to see their wetlands reduced to quagmire, or their crops bent to the ground.





## B) Recreational Land-Users

Major changes have taken place in 'leisure country' during the past decade; we are told that these are directly attributable to the snowmobile. However, the great number of people staying in the province and winterizing their cottages is not the product of snowmobiling per se, but rather is a reasonable outgrowth of those social changes earlier discussed. Many other activities, both winter and summer, have also shown dramatic rises in popularity, e.g. skiing, snowshoeing, and hiking. This trend has become apparent to us, both through government data, and our own experience.

Indeed, the Federation's direct membership has almost tripled since 1969 and now stands about 14,000. The Bruce Trail Association has doubled its membership since 1970 and now stands at 7,000. Sales in hiking equipment, cross-country skis, and snowshoes have virtually skyrocketed, although we have been unable to obtain detailed statistics on these. And, there are fundamental differences between ORV and non-motorized activities. For example, snowmobiles, so versatile, rapid, and numerous as to already appear virtually throughout 'leisure country' have inherent flaws - or features - which make their usage wholly incompatible with non-motorized activities. Their appearance, their noise, their ease and speed of transport, their long remaining tracks, and their potential ability to



disturb wildlife, all drastically reduce the wilderness, peace, isolation and sense of accomplishment, qualities for those involved in non-motorized forms of leisure. Since these are, (for most users) the ultimate goals of other leisure forms, the use of snowmobiles very seriously degrades their present quality of experience. As has already been suggested, the increase in leisure activities will continue. In particular, the pursuit of these activities will represent a growing need to escape the city, its environs, and particularly its technological way of life. Put simply, participants are not so much seeking active recreation as they are in becoming immersed in the settings or in escape, even briefly, from the urbanized, technological areas and way of life. The 60s may be said to belong to the snowmobile - the 70s may well be a turning point in man's view and choice of recreation.

Serious conflicts have already developed between those who wish to snowmobile, and those who wish to indulge in more quiet outdoor pastimes. Such conflicts are greatly accentuated by our lack of open space and our sparse supply of wilderness areas in Southern Ontario. Participant goals, spatial questions and saturation levels must surely be considered in any governmental policy that relates to the use of recreational space and the consequent encouragement of any particular form of recreation.

Where ORV users and other groups (such as hikers and skiers)



simultaneously use an area, the motorized vehicles invariably dominate the landscape. A snowmobiler may not even be aware of the presence of others, but it is certain that those others will know a snowmobile is present, and their experiences will normally be significantly impaired.

Let us suppose, for example, that in a given radius of half a mile there are twenty hikers. Each can well be unaware of the presence of each other. Enter a snowmobile; although the snowmobiler may be unaware that hikers are present, all the hikers will surely know a snowmobile has arrived. Where possible, non-motorized recreationists will seek other areas; however, many people have found this simply impossible. And, closely related to this spatial problem is the question of density of use. It is perhaps a gross underestimate to suggest that ten times the number of hikers can use a trail as can off-road vehicle users!

"One can envision a recreation area where annual carrying capacity might be:

- 1,000,000 man days on foot
- 250,000 man days with stock
- 100,000 man days with MRV

With the population increasing geometrically, and with a national commitment to serving more Americans on modestly arithmetically increasing public recreation land, man on foot or under his own power becomes progressively more desirable.<sup>2</sup> This is simply because user saturation levels are higher".

With regard to snowmobiles, the experience of the National Capital Commission in Ottawa has been a most interesting one,



and yields considerable insight into the potential for minimizing conflict through specific zoning. When snowmobiles first became popular as a winter sport, the NCC attempted to accommodate them in such a way that public safety was not compromised and without causing conflicts of use. 5200 acres and several miles of trails in Gatineau Park were set aside exclusively for the use of snowmobiles. Lighting was installed along the trails, parking lots were made available, and a great deal of care was taken in preparing and maintaining the areas.

This policy, however, proved effective only as long as there were small numbers of snowmobilers, most of whom belonged to clubs.

"By the beginning of the 1969 season, sales had skyrocketed to the point that we were pretty certain these machines were reproducing on their own with no predators to keep the population in balance. At the same time the sales people released to television a number of commercials depicting operators behaving in a manner which can most graciously be described as blissful abandon. To their credit the sales people soon got off this kick but the damage had been done - the seed had fallen on a good deal of fertile soil."

Problems occurred and as a result, the NCC received numerous complaints about such poor behaviour. The problems became so serious that, in 1971 snowmobiles were banned from the park, and later from the entire greenbelt around Ottawa.

"Again the flood of mail and telephone calls started. However, this time the messages were for and against the new policy. It was probably the most popular decision the NCC ever made. By actual count the proportions were eight to one in favour of





the ban. Throughout the winter the police laid some forty-five charges against over-snow vehicle operators trespassing on NCC land. And our people did practically no patrolling. The ban was enforced by nearby residents phoning the RCMP whenever a machine showed its nose."<sup>4</sup>

Subsequently, the portion west of the Eardley-Macham Road, was reinstituted as a snowmobiling area, and Ottawa area snowmobilers are encouraged to use the area. Since rules and regulations were laid as to where in Gatineau Park the snowmobilers were allowed to go, they have behaved very well and there are seldom any cases of abuse of the regulations.

We congratulate the NCC for taking such decisive action. Often, such decisions are avoided until too late since they seem discriminate against one group of individuals - yet through lack of decision, serious and irreversable problems frequently occur. It is preferable that policy be made and stated, rather than being allowed to occur by default.

Such policies are urgently required with regard to both snowmobiles and other off-road vehicles.

Clearly, the social impact of snowmobiles can be minimized, but this urgently requires the designation of specific snowmobiling areas, through zoning, and their elimination from the major area of southern Ontario. And, in conjunction with this series of trails and other areas, criteria must be set for the development of full facilities in order that such areas should remain attractive to these users.



As regards other ORVs, their advent can only be considered disastrous. While snowmobiles are presently employed at a time of minimal leisure use, terrestrial and amphibious ORVs will find their greatest use during the spring, summer and fall. In view of the great densities already using recreation country, the current stresses, and the limited quality of experience with few ORVs, one can only foresee massive problems with such highly consumptive forms of recreation. They will create great noise when residents cannot even reasonably escape behind closed doors and windows; they will monopolize and be uncontrollable in the forested lands behind cottages in Southern Ontario, they will impact the most beautiful, most peaceful and only undisturbed areas of the countryside; and they will severely affect the support capacity for wildlife and hence the quality of experience in leisure country.

As already suggested, we see no method of even minimizing these problems, short of a complete recreational ban.



## Conclusion

In conclusion, the Federation recognizes fundamentally different effects and values regarding the vital transport - industrial and recreational uses of off-road vehicles. Recreationally, the snowmobile is here to stay, and must be accommodated. But new terms of reference are needed. We believe that a comprehensive series of trails and open space areas must be made available for snowmobile enthusiasts. First however, criteria must be set to minimize the environmental impacts and sociological problems associated with snowmobile usage. Such can be accomplished only through snowmobile use zoning, and through coordination design, and in many cases, supervision of the facilities by an office of the Ministry of Natural Resources.

While the environmental impact of snowmobiles continues only so long as their local usage continues and can be minimized through wise management, the two, three, four and six wheeled vehicles making direct contact with the substrate are an entirely different matter. The impact of these vehicles is generally considerably more severe, functionally permanent and simply cannot be either minimized or alleviated - practicably - through land use planning.

Further, in direct and indirect interactions and effects on other land users, and the nature of these interactions, lead us to believe that user group conflict caused by the use of these



machines will dwarf beyond recognition any problems associated with the snowmobile, with regard to their recreational usage.

With regard to vital transport and industrial applications, off-road vehicles appear to have very real environmental and sociological merits, provided that their design, operation and usage falls under the strict control of regulations set out by the Ministry of the Environment.





## RECOMMENDATIONS

In view of these considerations, The Federation of Ontario Naturalists recommends:

### Recreation/All-Terrain Vehicles

- 1.1 That the (manufacture), sale, and use of all off-road vehicles - excluding snowmobiles, by the general public, be banned.
- 1.2 That the manufacture, sale and usage of summerizing tires for snowmobiles constitutes the production of an all-terrain vehicle, and that such manufacture, sale and usage be banned.

### Vital Transport All-Terrain Vehicles

- 2.1 That the use of all-terrain vehicles - including hovercraft - be restricted entirely to vital transport and commercial applications.
- 2.2 That the use of these vehicles be permitted
  - a) only by specific licensed users
  - b) only by users demonstrating a real need to gain access to areas where alternative environmentally more desirable methods do not exist
  - c) only under individual permit setting out site and period of operation.
- 2.3 That such permits
  - a) be issued by the Ministry of the Environment



- b) be issued only after careful analysis by the Ministry of the Environment, ensuring that the environmental impact will (1) be the minimal possible, and  
(2) be of an acceptable nature.
- 2.4 That the Ministry of the Environment develop guidelines for the evaluation of such proposals, and that these be publically reviewed.
- 2.5 That the Ministry of the Environment have direct control over the design of such vehicles.

#### Snowmobiles

- 3.1 That comprehensive legislation be established governing the use of all snowmobiles with the few exceptions here discussed, the Federation considers the Interim recommendations of this Select Committee to be excellent and believes that they should be enacted as quickly as possible.
- 3.2 That environmental quality standards be set for snowmobile usage. The Federation concedes with the set of statutes described in the Appendix to "The Off-Road-Vehicles and Environmental Quality" (Appendix 2) with the following minor variations:
  - a) Section 10: that a provincial minimum noise rating of 73 db be established within one year,
  - b) Section 10: that emissions - particularly of heavy metals - be reduced as rapidly as possible to the lowest possible level.



- c) Section 11:7: That section 11:6 and 11:7 are redundant; the latter should be dropped,
- d) Section 17: that after January 1, 1975, in southern Ontario, no oversnow vehicle shall operate on any public or private land except in specific areas zoned and posted for that use. That in northern Ontario specific areas shall be zoned no snowmobile usage,
- e) Section 3: that every off-road vehicle operated within the province after October 1, 1973, display its registration plate provided by the Ministry of Transportation and Communications in a manner prescribed by the Department, and that characters shall be no less than six inches high.

3.2 That in particular, the Interim recommendations concerning Trespass be enacted as proposed.

3.3.1 That the holding of a snowmobile license be mandatory for operation of a snowmobile on both public and private property, as is required of hunters.

3.3.2 That, in order to obtain such a license, the applicant must first attend Ministry of Natural Resources Training sessions and be required to pass competency examinations, as is now required of all prospective hunters.

3.3.3 That the Ministry of Natural Resources be directed to undertake such an operator training program, and that such a program contain a detailed section relating to environmental impact.



3.4.1 That a vigorous research program be conducted into

(1) the quantitative effects of snowmobile impact under various snow conditions

(11) the effects in different habitats and regions of the province, and

(111) particularly to such subtleties and compositional changes.

3.4.2 That such research should be coordinated and data assessed through a special office in the Ministry of Natural Resources.

3.5.1 That the Ontario Government, through the Ministry of Natural Resources, provide leadership in establishing and coordinating a carefully planned series of snowmobiling areas and trails.

3.5.2 That, in Southern Ontario, all snowmobiles be strictly confined to so designated areas, specifically zoned for that use, involving comparatively few blocks of land and many trails.

3.5.3 That, as part of the regional planning process, municipalities, with consultation with the Ministry of Natural Resources and with the public, specifically zone areas for snowmobile usage. It shall not be construed that these are to remain in this classification indefinitely, nor that these sites are free and open to the public, nor that they will be acquired by the Municipality.

3.5.4 That, where regional plans do not exist, the Ministry of Natural Resources be empowered to so zone specific





sanctuaries and trails for snowmobile use. That a target date of 1975 be established for this zoning. That such areas exclude all Primitive (Class I) Parks, Wild Rive (Class II) Parks, Natural Environment ( Class III) Parks, and Nature Reserve (Class IV) Parks.

3.5.5 That, on Crown Land, the blocks of forested land be rotated, on a ten year basis, or more often when warranted, as indicated by continued surveillance.

3.5.6 That the traversing of forested areas, except on recognized trails, be strenuously discouraged.

3.5.7 That a special office of the Ministry of Natural Resources be appointed competent planning staff, to plan and coordinate all snowmobile areas and new trails.

3.5.8 That a biological report on the area of new trails be prepared prior to the design and establishment of new trails.

3.5.9 That such new trails should be routed well away from such sensitive sites as nature forest cores in secondary growth areas, unusual biological sites, and such biologically important areas as deer yards. That these routings exclude wilderness areas and all parks where their use would lead to environmental degradation.

3.5.10 That thorough planning and construction/establishment of facilities be undertaken in specifically zoned areas in a fashion to minimize environmental effects. In this regard, we recommend the use of agricultural and especially pasture land, and the use of trails rather than unrestricted travel through forested land.



- 4.1 That the Ministry of Natural Resources be directed to undertake, as urgently as possible, a careful review of its leisure policy: a) in view of projected social changes, and b) regarding the development of future leisure activities. This review should focus upon (a) maximizing the recreational value of leisure time in Ontario and (b) assisting the various municipalities and the Ministry of Natural Resources with strategic land use planning.
- 5.1 That mechanism - perhaps a review committee within the Department of the Environment - be established to evaluate products such as snowmobiles before marketing.



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## Bibliography

- Baldwin, M.F.; 1970:  
The Offroad Vehicle and Environmental Quality. Conservation Foundation. Washington, D.C.
- Butler, R.W. et al; 1971:  
Proc. Conf. on Snowmobiles and ATVs. University of Western Ontario.
- Chubb, M.; 1971:  
Background papers for the Symposium on Snowmobile and ORV Research.
- Chubb, M.; 1971:  
Proc. of the 1971 Snowmobile and the ORV Research Symposium.
- Conservation Council of Ontario; undated:  
Report of the Committee on Snowmobiles.
- Derry, Joh; 1972:  
Statement to the S.C. regarding Snowmobiles.
- Duthie, J.; 1971:  
Leisure Panel Discussion. Proc. Conf. on Snowmobiles and ATVs. University of Western Ontario. Page 19.
- Gulland, J.A.; 1971:  
The Scientific Input to Fishery Management Decisions. In University of Washington Symposium on Fishery Research Needs in the '70s. University of Washington. 1971.
- Haugen, A.O.; 1971:  
Proc. of the Snow and Ice in Relation to Wildlife and Recreation Symposium: Iowa State University, Iowa.
- Hutchinson, T.C.; 1972:  
The Occurrence of Lead, Cadmium, Nickel and Chloride in Soils and Vegetation of Toronto in Relation to Traffic Density. International Conf. on Auto Pollution. Toronto. P. 13 - 43.





Jarvinen, J.A. and Schmid, W.D.; 1971:  
See Chubb.

Kirk, M.; 1972:  
Grey Bruce Pollution Probe Brief to the Select Committee  
on Motorized Snow Vehicles and ATVs.

Ontario; 1971:  
The Motorized Snow Vehicles Act. Department of Transport.

Petrie; 1971:  
Leisure Panel Discussion  
Proc. Conf. on Snowmobiles and ATVs. University of  
Western Ontario. Page 7.

Pruitt, W.O.; 1971:  
Some Ecological Effects of Snowmobiles. Mimeo.

Pruitt; 1971:  
See Butler.

Schmid, W.D.; 1971:  
Modif. of the Subnivean Microclimate by Snowmobiles.  
P. 251 - 257.

Scrivena, M.; 1972:  
Submission to the Select Committee on Motorized Snow  
Vehicles and ATVs. Toronto.

Wanek, W.J.; 1971:  
Observations on Snowmobile Impact. Minnesota Volunteer.  
P. 1 - 9.

Wanek, W.J.; 1971:  
See Chubb.



<sup>1</sup>Dateline Business, Toronto Star, March 13th, 1973

<sup>2</sup>Ibid

<sup>3</sup>Extracted for background papers, University of Western Ontario Conference: H.D. Moffatt, "Snowmobiling and the Conservation Authorities", Department of Energy and Resource Management, Toronto, 1971. Background paper E-54.

<sup>4</sup>Background paper #-69, U.W.O. Conference, "Winter Comes to Provincial Parks"

<sup>5</sup>Newsletter of Ministry of Natural Resources, Ontario, Winter 1972-73, pp 4 - 5

<sup>6</sup>Proceeding Conference on Snowmobiles and All-Terrain Vehicles, Faculty of Law, University of Western Ontario, London, Ontario: Oct. 29-30, 1971, p 131

<sup>7</sup>Ibid, p 131

<sup>8</sup>Ibid, p 132

<sup>9</sup>Phil Sykes, Toronto Daily Star, Jan. 13/73

<sup>10</sup>Toronto Star, Aug. 9/72



Ontario Archives, Toronto Star, March 1972

1972

Estimated for 1972-73, Ontario Archives, University of Western Ontario, London, Ontario, 1972, p. 24.

Estimated for 1972-73, Ontario Archives, University of Western Ontario, London, Ontario, 1972, p. 24.

Estimated for 1972-73, Ontario Archives, University of Western Ontario, London, Ontario, 1972, p. 24.

Estimated for 1972-73, Ontario Archives, University of Western Ontario, London, Ontario, 1972, p. 24.

1972, p. 121

1972, p. 121

1972, p. 121, Ontario Archives, 1972, p. 121

1972, p. 121, Ontario Archives, 1972, p. 121